

Abstract

Provided are a compound semiconductor crystal substrate capable of reducing planar defects such as twins and anti-phase boundaries occurring in epitaxially grown crystals without additional steps beyond epitaxial growth, and a method of manufacturing the same. A compound single crystal substrate, the basal plane of which is a nonpolar face, with said basal plane having a partial surface having polarity (a partial polar surface). Said partial polar surface is a polar portion of higher surface energy than said basal plane. A method of manufacturing the compound single crystal substrate, comprising the steps of: epitaxially growing a compound single crystal in the normal direction on a basal plane of a compound single crystal substrate wherein the basal plane is a nonpolar face and has a partial polar surface in a portion thereof, and either cutting the compound single crystal layer that has been grown in parallel to the basal plane, or removing at least said substrate to obtain a compound single crystal block, a basal plane of which is a nonpolar face only having a partial polar surface with the highest surface energy in a portion thereof.